What Is Claimed Is:

1. A method for discriminating an optical storage medium, comprising:

reading a predetermined range of the optical storage medium to obtain a plurality of data transition points, wherein each of transition regions is defined as an

5   interval between two neighboring ones of the data transition points;

obtaining a longest transition region among the transition regions; and

discriminating a type of the optical storage medium according to a dimension of the longest transition region.

2. The discrimination method according to Claim 1, wherein the discriminating

10   step comprises:

obtaining a time-consumption for reading the longest transition region; and

comparing the time-consumption with a time threshold to discriminate the optical storage medium.

3. The discrimination method according to Claim 2, wherein the optical storage

15   medium is discriminated as a DVD when the time-consumption is smaller than the time threshold.

4. The discrimination method according to Claim 2, wherein the optical storage medium is discriminated as a CD when the time-consumption is larger than the time threshold.

20   5. The discrimination method according to Claim 1, further comprising a step of obtaining a clock frequency for reading the optical storage medium.

6. The discrimination method according to Claim 5, wherein the optical storage medium is discriminated as a blank disk when the clock frequency is substantially zero.

7. A method for discriminating an optical storage medium, comprising:

obtaining a clock frequency for reading the optical storage medium; and

comparing the clock frequency with a frequency threshold to discriminate a type of the optical storage medium.

8. The discrimination method according to Claim 7, wherein the optical storage medium is discriminated as a DVD when the clock frequency is larger than the frequency threshold.

9. The discrimination method according to Claim 7, wherein the optical storage medium is discriminated as a CD when the clock frequency is smaller than the frequency threshold.

10. The discrimination method according to Claim 7, wherein the comparing step comprises a step of determining the optical storage medium as a blank disk when the clock frequency is substantially zero.

11. A method for discriminating an optical storage medium, comprising:

projecting a light beam onto the optical storage medium to obtain a distance between a reflection layer and a surface layer of the optical storage medium; and

comparing the obtained distance with a distance threshold to discriminate the optical storage medium.

12. The discrimination method according to Claim 11, wherein the optical storage medium is discriminated as a DVD when the obtained distance is smaller than the distance threshold.

13. The discrimination method according to Claim 11, wherein the optical storage medium is discriminated as a CD when the obtained distance is larger than the distance threshold.

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14. The discrimination method according to Claim 11, wherein the comparing step comprises a step of determining the optical storage medium as a blank disk when a clock frequency for reading the optical storage medium is substantially zero.

15. The discrimination method according to Claim 11, further comprising a step of reading a predetermined range of the optical storage medium to obtain a plurality of data transition points when the obtained distance is larger than a failure threshold, wherein each of transition regions is defined as an interval between two neighboring ones of the data transition points.

16. The discrimination method according to Claim 15, further comprising:

obtaining a longest transition region among the transition regions; and

discriminating a type of the optical storage medium according to a dimension of the longest transition region.

17. The discrimination method according to Claim 16, wherein the discriminating step comprises:

obtaining a time-consumption for reading the longest transition region; and

comparing the time-consumption with a time threshold to discriminate the optical storage medium.

18. The discrimination method according to Claim 17, wherein the optical storage medium is discriminated as a DVD when the time-consumption is smaller than the time threshold and the optical storage medium is discriminated as a CD when the time-consumption is larger than the time threshold.

19. The discrimination method according to Claim 11, further comprising a step of obtaining a clock frequency for reading the optical storage medium to discriminate the optical storage medium when the obtained distance is larger than a failure threshold,

wherein the clock frequency is compared with a frequency threshold to discriminate a type of the optical storage medium.

20.   The discrimination method according to Claim 19, wherein the optical storage medium is discriminated as a DVD when the clock frequency is larger than the frequency threshold and the optical storage medium is discriminated as a CD when the clock frequency is smaller than the frequency threshold.